AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

Claims 1-21. (cancelled)

22. (currently amended) ~~Method~~ A method for [[the]] differentiated digital processing of a sound signal, constituted in [[the]] an interval of a frame by [[the]] a sum of sines of fixed amplitude and of which [[the]] a frequency is modulated linearly as a function of time, this sum being modulated temporally by an envelope, [[[the]] a noise of said sound signal being added to said signal, prior to said sum, comprising: ~~characterized in that it comprises:~~

a stage of ~~analysis~~ analyzing making it possible to determine parameters representing said sound signal by

~~a calculation of~~ calculating the envelope of the signal,

~~a calculation of the period of the fundamental of the voice signal (pitch) and of~~ calculating the sound signal of the pitch and its variation,

~~an application~~ applying to [[the]] a temporal signal of [[the]] an inverse variation of the pitch a temporal sampling of the sound signal with a variable sampling step, this step varying with an inverse value of the pitch variation,

performing a Fast ~~Fourrier~~ Fourier Transformation (FFT) of [[the]] a pre-processed signal,

~~an extraction of the~~ extracting signal frequential components and their amplitudes from [[the]] a result of the Fast ~~Fourrier~~ Fourier Transformation, and

~~a calculation of~~ calculating the pitch ~~and its validation~~ in [[the]] a frequential domain and its variation with respect to the previously calculated pitch in order to improve a precision of the previously calculated pitch.

23. (currently amended) ~~Method~~ The method according to claim 22,

~~characterized in that it furthermore~~ wherein the method further comprises a stage of ~~synthesis of~~ synthesizing said representative parameters making it possible to reconstitute said sound signal.

24. (currently amended) ~~Method~~ The method according to claim 22,

~~characterized in that it furthermore~~ wherein the method further comprises a stage of coding and of decoding of said representative parameters of said sound signal.

25. (currently amended) ~~Method~~ The method according to claim 22,

~~characterized in that it furthermore~~ wherein the method further comprises a stage of filtering of the noise and a stage of ~~generation of~~ generating special effects, from the analysis, without ~~passing through the~~ carrying out a the synthesis.

26. (currently amended) ~~Method~~ The method according to claim 22,

~~characterized in that it furthermore~~ wherein the method further comprises a stage of ~~generation of~~ generating special effects associated with [[the]] a synthesis.

27. (currently amended) ~~Method~~ The method according to claim 23,

~~characterized in that~~ wherein said stage of ~~synthesis~~ synthesizing comprises:

[[a]] summing of the sines of which the amplitude of the frequential components varies as a function of the envelope of the signal and of which the frequencies vary linearly,

~~a calculation of~~ calculating the phases as a function of the frequencies value and of the values of phases and frequencies belonging to the preceding frame,

~~a superimposition of~~ superimposing the noise, and

~~an application of~~ applying the envelope.

28. (currently amended) ~~Method~~ The method according to claim 25,

~~characterized in that~~ wherein said stage of filtering of the noise and said stage of ~~generation of~~ generating special effects, from the analysis, without ~~passing though~~ carrying out the synthesis, comprise a sum of the original signal, of the original signal shifted by one pitch in positive value and of the original signal shifted by one pitch in negative value.

29. (currently amended) ~~Method~~ The method according to claim 28,

~~characterized in that~~ wherein said shifted signals are multiplied by a same coefficient, and the original signal by a second coefficient, the sum of said first coefficient, added to itself, and of said second coefficient is equal to 1, reduced in order to retain an equivalent level of the resultant signal.

30. (currently amended) ~~Method~~ The method according to claim 28,

~~characterized in that~~ wherein said stage of filtering and said stage of ~~generation of~~ generating special effects, from the analysis, without ~~passing though~~ carrying out the synthesis, comprise:

~~a division of~~ dividing the temporal value of the pitch by two, and

~~a modification of~~ modifying the amplitudes of the original signal and of the two shifted signals.

31. (currently amended) ~~Method~~ The method according to claim 28,

~~characterized in that~~ wherein said stage of filtering and said stage of ~~generation of~~ generating special effects, from the analysis, without ~~passing through~~ carrying out the synthesis, comprise:

~~a multiplication of~~ multiplying each sample of the original voice by a cosine varying at the rhythm of half of the fundamental (multiplication by two of the number of frequencies), or varying at the rhythm of one third of the fundamental (multiplication by three of the number of frequencies), and

~~then an addition of~~ adding the result obtained to the original voice.

32. (currently amended) ~~Method~~ The method according to claim 26,

~~characterized in that~~ wherein said stage of ~~generation of~~ generating special effects associated with the synthesis comprises:

~~a multiplication of~~ multiplying all the frequencies of the frequential components of the original signal, taken individually, by a coefficient, and

~~a regeneration of~~ regenerating the moduli of the harmonics from the spectral envelope of said original signal.

33. (currently amended) ~~Method~~ The method according to claim 32,

~~characterized in that~~ wherein said multiplication coefficient of the frequential components is:

a coefficient dependent on the ratio between the new pitch and the real pitch, or

a coefficient varying, periodically or randomly, at low frequency.

34. (currently amended) ~~Device,~~ A device for the carrying out of the method according to claim 22, ~~for differentiated digital processing of a sound signal, constituted in the interval of a frame by the sum of sines of fixed amplitude and of which the frequency is modulated linearly as a function of time, this sum being modulated temporally by an envelope, the noise of said sound signal being added to said signal, prior to said sum, Characterized in that it comprises:~~ comprising:

- means [[of]] for analysis making it possible to determine parameters representative of said sound signal, ~~and/or~~ this means for analysis comprising:

means for calculating the envelope of the signal,

means for calculating the pitch and of its variation,

means for applying the inverse variation of the pitch to the temporal signal, consisting in performing a temporal sampling of the sound signal with a variable sampling step, this step varying with the inverse value of the pitch variation,

means for the Fast Fourier Transformation (FFT) of the preprocessed signal;

means for extracting the frequential components and their amplitudes from said signal, from the result of the Fast Fourier Transformation,

means for calculating the pitch in the frequential domain and its variation with respect to the previously calculated pitch in order to improve the precision of this previously calculated pitch.

~~means of synthesis of said representative parameters making it possible to reconstitute said sound signal, and/or~~

~~means of coding and of decoding said parameters representative of said sound signal, and/or~~

~~means of filtering the noise and of generation of special effects, from the analysis, without passing through the synthesis, and/or~~

~~means of generation of special effects associated with the synthesis.~~

35. (currently amended) ~~Device~~ The device according to claim 34,

further comprising at least one of:

means for synthesizing said representative parameters making it possible to reconstitute said sound signal, and/or

means for coding and of decoding said parameters representative of said sound signal,

means for filtering the noise and of generation of special effects, from the analysis, without passing through the synthesis, or

means for generating special effects associated with the synthesis.

~~characterized in that said means of analysis comprise:~~

~~means of calculation of the envelope of the signal,~~

~~means of calculation of the pitch and of its variation,~~

~~means of application of the inverse variation of the pitch to the temporal signal,~~

~~means for the Fast Fourrier Transformation (FFT) of the preprocessed signal,~~

~~means of extraction of the frequential components and their amplitudes from said signal, from the result of the Fast Fourrier Transformation,~~

~~means of optional elimination of the ambient noise by selective filtering before coding.~~

36. (currently amended) ~~Device~~ The device according to claim [[34]] 35,

~~characterized in that~~ wherein said means ~~of synthesis~~ for synthesizing comprise:

means [[of]] for summing sines of which the amplitude of the frequential components varies as a function of the envelope of the signal,

means [[of]] for calculating ~~calculation~~ of phases as a function of the frequencies value and of the values of phases and frequencies belonging to the preceding frame,

means [[of]] for ~~superimposition of~~ superimposing noise, and

means [[of]] for ~~application of~~ applying the envelope.

37. (currently amended) ~~Device~~ The device according to claim [[34]] 35,

~~characterized in that~~ wherein said means [[of]] for filtering [[of]] the noise and ~~of generation of~~ said means for generating special effects, from the analysis, without passing through the synthesis, comprise means [[of]] for summing of the original signal, of the original signal shifted by one pitch in positive value and of the original signal shifted by one pitch in negative value.

38. (currently amended) ~~Device~~ The device according to claim 37,

~~characterized in that~~ wherein said shifted signals are multiplied by a same coefficient, and the original signal by a

second coefficient, said sum of said first coefficient, added to itself, and of said second coefficient is equal to 1, reduced in order to retain an equivalent level of the resultant signal.

39. (currently amended) ~~Device~~ The device according to claim [[34]] 35,

~~characterized in that~~ wherein said means [[of]] for filtering and ~~of generation of~~ said means for generating special effects, from the analysis, without passing through the synthesis, comprise:

means ~~of division of~~ for dividing the temporal value of the pitch by two, and

means ~~of modification of~~ for modifying the amplitudes of the original signal and of the two shifted signals.

40. (currently amended) ~~Device~~ the device according to claim [[34]] 35,

~~characterized in that~~ wherein said means [[of]] for filtering and ~~of generation of~~ said means for generating special effects, from the analysis, without passing through the synthesis, comprise:

means ~~of multiplication of~~ for multiplying each sample of the original voice by a cosine varying at the rhythm of half of the fundamental (multiplication by two of the number of frequencies), or varying at the rhythm of one third of the

fundamental (multiplication by three of the number of frequencies), and

means [[of]] for then adding the result obtained to the original voice.

41. (currently amended) ~~Device~~ the device according to claim [[34]] 35,

~~characterized in that said means of generation of~~ wherein said means for generating special effects associated with the synthesis, comprise:

means ~~of multiplication of~~ for multiplying all the frequencies of the frequential components of the original signal, taken individually, by a coefficient, and

means ~~of regeneration of~~ means for regenerating the moduli of the harmonics from the spectral envelope of said original signal.

42. (currently amended) ~~Device~~ The device according to claim 41,

~~characterized in that~~ wherein said multiplication coefficient of the frequential components is:

a coefficient dependent on the ratio between the new pitch and the real pitch, or

a coefficient varying, periodically, at low frequency.